

ARTICLE XI

(Created by Ordinance No. 2839 July 19, 1999)

LANDSCAPING REQUIREMENTS**11.01 INTENT AND PURPOSE:** The purpose of the regulations contained in this article is to:

- A. Safeguard property values, protect public and private investments and to promote high-quality development within the City of Beloit with landscaping that enhances the physical and visual environment of the City of Beloit for its citizen's use and enjoyment.
- B. Reduce the unsightly and/or offensive views, noise, pollution and glare created by parking lots and other outdoor land uses through the use of trees and landscape plantings.
- C. Reduce the incompatibility between different adjacent land uses and zoning districts and to lessen the adverse impact a more intense land use may have upon residential areas and other areas of less intense use through the use of landscape buffers and plantings.
- D. Foster the preservation and stabilization of the community's existing natural resources, its ecological balance, and promote a healthier environment by preserving and planting trees and plants to mitigate the ill effects associated with certain land uses, including the filtering of noise, dust and fumes, buffer winds, modify the rate of storm water runoff and soil erosion, reduce heat and glare from the sun, screen vehicle headlights and parking lot area lighting.

11.02 APPLICABILITY:

- A. Applicability: The landscape requirements as stated herein, shall apply to all zoning lots in all zoning districts which have outdoor parking areas containing 5 or more parking spaces and/or open sales lots, outside storage lots, loading docks, truck terminals, equipment yards, and other vehicular maneuvering areas of more than 2,500 square feet in area. Also, all zoning lots which are located adjacent to a less intense zoning district shall be required to provide a *Landscape Buffer* according to Table 11.05(B) *Schedule of Buffer Requirements*.
- B. Exceptions: The following uses are exempt from the requirements of this article:
 - 1. All single-family and two-family residential uses.
 - 2. Paved areas for airport runways or public recreational uses, such as tennis courts, playgrounds and basketball courts.
 - 3. Previously existing developments that were legally established and are nonconforming with the requirements of this article may continue in use "as is".
- C. Nonconforming Properties: Properties, which are nonconforming with regard to the landscaping requirements of this Ordinance, must be brought into conformity when:
 - 1. A new building, parking lot or outside storage area is proposed or constructed.
 - 2. An addition to an existing building, parking lot or outside storage area greater than 10% of the existing floor area or land area is proposed or constructed.
 - 3. A zoning application for a Conditional Use Permit and/or a Variance is approved. Approval may include conditions that require the entire property to be brought into compliance with all or some of the landscaping requirements of this Ordinance. A more intense landscaping may also be required if deemed necessary to protect adjacent property values.

Figure 11.03 - SHADE TREES

11.03 SHADE TREES: The *Shade Tree* requirements shall be in addition to all other landscape requirements of this article. *Shade Trees* shall be a primary design element and receive primary consideration in the design and layout of a site plan. The location of light poles, signs, and *Shade Trees* shall be coordinated to complement the overall site design.

A. *Shade Trees* must be planted and maintained on the zoning lot as follows:

1. One *Shade Tree* shall be planted for every 10 parking spaces or fraction thereof.
2. One *Shade Tree* shall be planted for every 2,500 square feet of paved land area, or fraction thereof.
3. One *Shade Tree* shall be planted for every 10,000 square feet of building footprint or fraction thereof. Within the Milwaukee Overlay District, one *Shade Tree* shall be planted for every 5,000 square feet of building footprint.
4. One *Shade Tree* shall be planted for every 90 lineal feet, or fraction thereof, of frontage a property has on a street right-of-way. Trees shall be located within 25 feet of a front property line. If overhead utilities would interfere with the growth of trees, the Planning Director may approve an appropriate *Ornamental Tree* or relocation of the required *Shade Trees*.

(See Figure 11.03 “*Shade Trees*”, for an example of these requirements)

B. In *Large Parking Lots* shade trees shall be planted in a planting bed of no less than 18 feet in width and a minimum of 300 square feet in land area (18 feet by 18 feet). In *Small* or *Medium Parking Lots* shade trees shall be planted in a planting bed of no less than 9 feet in width and a minimum of 150 square feet in land area (9 feet by 18 feet).

(See Section 11.06 “*INTERIOR LANDSCAPING*” for interior planting island regulations)

C. A tree is considered mature when it is 6 inches or greater in diameter. Existing *Mature Trees* shall be counted toward the shade tree requirements if they are located on subject property and in close proximity to the area requiring shade trees and are of an acceptable quality and species. This is subject to the approval of the Planning Director and acceptable only if the existing trees are satisfactorily protected during any construction or grading activities according to Section 11.04 TREE PRESERVATION.

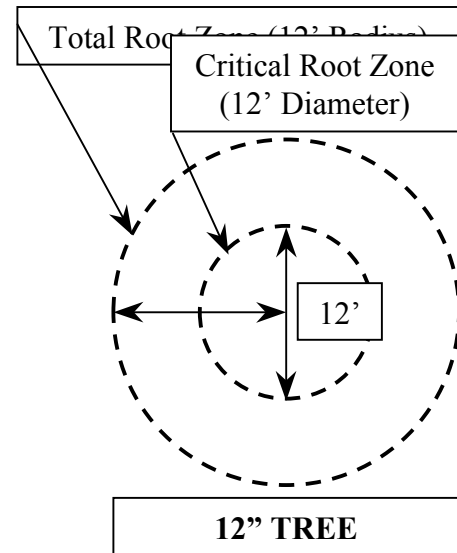
11.04 TREE PRESERVATION: In new developments, existing *Mature Trees* may not be damaged or removed until a *Development Plan*, including a *Tree Protection and Preservation Plan*, is submitted to and approved by the Planning Director. Existing trees greater than 6 inches in diameter shall count as equal to one new shade tree. For each additional 6 inch increment in diameter, additional credit shall be given toward fulfillment of the shade tree requirement equal to one tree. Trees smaller than 6 inches in diameter, may also be counted toward the shade tree requirements on a one for one basis subject to the approval of the Planning Director.

A. **TREE PROTECTION AND PRESERVATION PLAN:** To receive credit for preservation of *Mature Trees* during the development process, a *Tree Protection and Preservation Plan*, drawn to scale (preferably 1 inch=20 feet), must be submitted to and approved by the Planning Director. This plan must show the location, size and variety of all existing *Mature Trees* located on the subject property and on adjacent property within 10 feet of the lot lines. This plan shall also indicate which trees are to be removed, which trees are to be preserved, and what preservation techniques will be used to preserve and protect the trees to remain on the site. Preservation techniques shall consist of, but are not limited to, the following:

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11.04 TREE PRESERVATION: (continued)

1. Temporary fencing must be installed around the trunk of all trees planned to be preserved at a distance specified by the approved plans from the trunk of a *Mature Tree*. This fencing must be installed prior to the start of any work, including grading or tree removal.
2. Cut or fill of soil and treching is not permitted inside the area of the **Critical Root Zone** for any existing *Mature Tree*. The existing grade around the base of any tree to be preserved and within the area of the **Total Root Zone** of any existing *Mature Tree* shall not be altered in any manner not specifically approved by the Planning Director in the *Tree Protection and Preservation Plan* and shall be fenced off from any and all construction activities.
3. Building or road construction materials or equipment of any kind may **not** be stored within or traversed over any **Total Root Zone** area of any existing *Mature Tree* required to be fenced off from construction activities for tree protection purposes.



B. REMOVAL OF TREES DESIGNATED FOR PRESERVATION: In the event a tree is removed, damaged or destroyed by an act of man without a *Tree Removal Permit* and prior to the approval of a *Development Plan* and/or *Tree Protection and Preservation Plan*, it shall be replaced with new trees or a FINE paid to the City of Beloit according to the *Tree Replacement Schedule or Removal Fines* in Table 11.04 below:

1. The minimum size of replacement trees shall be 3 inches in diameter.
2. Replacement trees must be of a variety approved by the Planning Director.
3. A landscaping plan must be submitted and approved, if required by the Planning Director, prior to planting any of the replacement trees.

TABLE 11.04 TREE REPLACEMENT SCHEDULE / OR REMOVAL FINES		
DIAMETER OF TREE(S) REMOVED	NUMBER AND SIZE OF REPLACEMENT TREES	FINE AMOUNT
6-9 inches	4 (3") trees	\$500
9-12 inches	6 (3") trees	\$500
12-18 inches	8 (3") trees	\$750
18-24 inches	10 (3") trees	\$1,000
24-30 inches	12 (3") trees	\$1,500
30-36 inches	14 (3") trees	\$2,000
36-42 inches	16 (3") trees	\$2,500
42-48 inches	18 (3") trees	\$3,000
Over 48 inches	20 (3") trees	\$3,500

Figure 11.05(A) - PERIMETER LANDSCAPING

11.05 PERIMETER LANDSCAPING: The *Perimeter Landscaping* requirements shall be in addition to all other landscape requirements of this ARTICLE and shall consist of “OPEN GREEN SPACE”, and/or “PERIMETER LANDSCAPE STRIPS” and/or “LANDSCAPE BUFFERS” and shall be located on subject property within the boundary of the zoning lot.

A. OPEN GREEN SPACE: This requirement is intended to provide open space around the perimeter of a lot in order to provide areas for the planting of trees, storage of snow, swales for storm water control and utilities. This *Open Green Space* is also intended to prevent large expanses of pavement, which flow uninterrupted from one zoning lot to another creating a continuous sea of asphalt.

1. An *Open Green Space* must be provided along the perimeter of any zoning lot at the property lines where neither the *Landscape Strip* nor the *Landscape Buffer* is required. This *Open Green Space* must be at least 5 feet wide and comprised of living ground cover or lawn and located on each property adjacent to the property lines in order to create a combined 10-foot wide *Open Green Space* when two adjacent properties are conforming. If the gross area for parking or other outdoor use exceeds 100 spaces (or 27,000 square feet) a 10-foot wide *Open Green Space* is required. (See Figure 11.05(A) “*Perimeter Landscaping*” for examples)
2. Structures, buildings, paving, or outside storage of any kind may NOT be located within the area required for *Open Green Space*, except for approved access drives to a public street or alley or for approved access drives, not over 30 feet wide, to adjacent private property where an access agreement or circulation easement exists.
3. Trees, fences, utilities and light poles are permitted in the area required for *Open Green Space*.
4. The *Open Green Space* requirement shall not apply to properties located in the Central Business District where buildings with zero setbacks are existing or proposed. The *Open Green Space* provisions may be applied to properties located in the Central Business District on areas of a lot that will not be occupied by a building, such as parking lots or other outdoor uses.

B. LANDSCAPE STRIP: This requirement is intended to provide screening of parking lots and outdoor uses from the public streets and alleys. Any property that has an outdoor parking and/or storage use, which is located adjacent to a public street or alley, must install *Landscape Strips* as specified in this section in addition to the other landscaping requirements of this article. The *Landscape Strip* shall be installed on subject property between the use to be screened and the property line adjacent to any public street or alley.

1. The required *Landscape Strip* shall be comprised of a combination of at least 4 of the following 10 landscape elements: shade trees, evergreen trees, ornamental trees, evergreen shrubs, deciduous shrubs, perennial plants, ground cover plants, lawns, earth berms and fences or walls.
2. The quantity, size and spacing of these elements shall be measured by *Landscape Units* (LU’s), which is a value assigned to landscape elements based on the land area they cover and the screening characteristics they provide. (See Table 11.05(A) *Schedule of Landscape Unit Values*)
3. The *Landscape Strip* shall have at least 10 *Landscape Units* of landscaping per lineal foot of frontage along rights-of-way. Also, 50% of the Landscape Units shall be evergreen plant material, or equivalent, to provide year-round screening.

Figure 11.05(B) - LANDSCAPE UNITS

11.05 PERIMETER LANDSCAPING: (continued)**B. LANDSCAPE STRIP:** (continued)

4. The *Landscape Strip* shall be designed so that the parking lot or land use to be screened, will be effectively screened from the public right-of-way. A proposed landscape plan that meets all the minimum requirements for Landscape Units but does not achieve the **intent** of this ordinance, which is to provide an effective screen, may be denied by the Planning Director and revisions may be required.

TABLE 11.05(A) SCHEDULE OF LANDSCAPE UNIT VALUES				
LANDSCAPE UNIT VALUE	PLANT TYPE	MINIMUM SIZE (HEIGHT)	Recommended Spacing (On Center)	OTHER COMMENTS
225	Deciduous Tree	2" cal. / 12'	27'-90'	1 tree/10 spaces
225	Evergreen Tree (E)	6'-7'	9'-45'+	Screening
150	Ornamental Tree	1" cal. / 6'	9'-45'+	Screen / Seas. Int.
30	Evergreen Shrub (E)	18"-24"	3'-6'	Screening
15	Deciduous Shrub	18"-24"	3'-6'	Seasonal Interest
5	Perennial Plant	1 qt. pot	24"-36"	Seasonal Interest
1	Ground Cover Plant	2" pot	12"-18"	low maintenance
1.0/Foot Elev.	Berm (E)	1'-4' high	N/A	3:1 slope (max.)
0.1/Sq. Ft.	Lawn Only	N/A	Per Sq. Ft.	3-6" height max
(*)/Ft. Elev.	Fence or Wall (E) *	3 ft. min.	50% opaque	max. ht. varies

(E) = Evergreen; these elements shall be counted as "Evergreen" Landscape Units.

* - Fences and walls shall be given a Landscape Unit value equal to their percent of opacity.

(Example: If a fence is 75% opaque, it is given a Landscape Unit value of 0.75 per foot of elevation or 3 LU's per lineal foot for a 4 foot high fence)

5. The requirements of the *Landscape Strip* can be achieved through an infinite variety of design possibilities. The examples outlined in this article are only given to help explain the intent of this ordinance and serve as a general guide to the requirements herein.
- a. Standard Landscape Strip: A *Landscape Strip* must be a minimum of 10 feet wide, except as noted in (d.) below, and may be planted with almost any combination of plant materials to meet the minimum *Landscape Unit* requirements and the intent of the ordinance. Shade and evergreen trees must first be counted toward the *Shade Tree* requirements of Section 11.03 before any extra shade tree *Landscape Unit* values can be counted and used for the *Landscape Strip* requirements. Fifty percent (50%) of all the required landscape units must be evergreen plant materials.

	(10 feet)	
		1 ornamental tree = 150 LUs
		1 evergreen tree = 225 LUs
Sidewalk		10 evergreen shrubs x 30 LUs = 300 LUs
Street Curb		<u>22 deciduous shrubs x 15 LUs = 330 LUs</u>
		TOTAL = 1,005 LUs
100 feet = (1,000 Landscape Units)		
STANDARD LANDSCAPE STRIP – (10 LU's Per Lineal Foot)		

	(50 feet)	
		1 evergreen tree = 225 LUs
		90' of lawn x 5 LUs = 450 LUs
		<u>8 evergreen shrubs x 30 LUs = 240 LUs</u>
		TOTAL = 915 LUs
90' = (900 LUs)	90' = (900 LUs)	
EXPANSIVE LAWN & EVERGREENS – (10 LU's Per Lineal Foot)		

	(25 feet)	
		1 evergreen tree = 225 LUs
		90' of lawn x 2.5 LUs = 225 LUs
		90' of 3' berm x 3 LUs = 270 LUs
		<u>6 evergreen shrubs x 30 LUs = 180 LUs</u>
		TOTAL = 900 LUs
90 feet = (900 LUs)	90 feet = (900 LUs)	
EARTH BERM & PLANTINGS – (10 LU's Per Lineal Foot)		

	(5 feet)	3' fence 66% opaque
		1 ornamental tree = 150 LUs
		45' of 3' fence x 2 LUs = 90 LUs
		5 evergreen shrubs x 30 LUs = 150 LUs
		<u>4 deciduous shrubs x 15 LUs = 60 LUs</u>
		TOTAL = 450 LUs
45 FEET = (450 Landscape Units)		
REDUCED LANDSCAPE STRIP – (10 LU's Per Lineal Foot)		

Figure 11.05(C) - LANDSCAPE STRIP EXAMPLES

11.05 PERIMETER LANDSCAPING: (continued)**B. 5. LANDSCAPE STRIP:** (continued)

- b. Expansive Lawn and Evergreens: This example uses separation by horizontal distance and evergreen plants to lessen the impact a particular use may have on citizens in a public right-of-way. The edge of the paved area for the land use requiring landscaping may be located 50 feet from the property line with an open expanse of lawn and one evergreen tree for every 45 feet of frontage of the area requiring landscaping, for a value of 10 *Landscape Units* per lineal foot of frontage, calculated as follows:

(lawn value 0.1 x 50' = 5) + (evergreen tree value of 225 ÷ 45 = 5) = 10 LUs.

- c. Earth Berm and Plantings: This example uses earth berms and plantings to screen the desired use. A 25-foot wide berm could be 3 feet high, with a maximum slope of 3:1. This would provide 3 evergreen *Landscape Units* per lineal foot. Any combination of evergreen plant materials could then be used to provide the remaining 2 evergreen *Landscape Unit* requirements. Ornamental trees or shrubs could be used to provide the remaining 5 *Landscape Units* per lineal foot. This would meet the *Landscape Strip* requirement of 10 *Landscape Units* per lineal foot of frontage, and is calculated as follows:

(earth berm = 3) + (evergreen plants = 2) + (deciduous plants = 5) = 10 LUs

- d. Reduced Landscape Strip: A reduced *Landscape Strip* may be used only in areas where there is not sufficient space on a small lot, as determined by the Planning Director, based on the conditions stated below. The reduced *Landscape Strip* shall be as wide as practically possible and, in no instance, shall the required *Landscape Strip* be less than 5 feet wide without obtaining a Variance. When a reduced *Landscape Strip* is allowed, a masonry wall or sight-obscuring fence, which is at least 50% opaque and a minimum of 3 feet in height, must be located on the inside of the planting strip. The remaining area must be planted with plant materials so that a total *Landscape Unit* value of 10 per lineal foot of frontage is achieved, and 50% of the required *Landscape Units* shall be evergreen. The construction materials, techniques and style of the proposed wall or fence must meet the approval of the Planning Director. Requests for permission to establish a reduced *Landscape Strip* may be approved by the Planning Director only when it can be justified by one of more of the following conditions:

1. The site involves physical space limitations or unusually shaped parcels of land that makes it impractical to provide the minimum 10 foot wide *Landscape Strip*;
2. Existing topography, vegetation to be preserved, or other site conditions are such that full compliance is impossible or impractical;
3. Due to a change of use of an already developed site, the required *Landscape Strip* is larger than can reasonably be provided given the existing conditions.

(See Figure 11.05(C) for examples of Landscape Strips and Landscape Units)

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11.05 PERIMETER LANDSCAPING: (continued)

C. LANDSCAPE BUFFERS: The *Landscape Buffer* requirements shall be in addition to all other landscape requirements of this article. This requirement is intended to provide dense screening and a physical separation between a more intense land use and an adjacent less intense land use through the use of intense landscape plantings and fencing. A *Landscape Buffer* shall be required to be planted and maintained on all zoning lots which have buildings, structures and uses of land consisting of multiple-family residential, commercial, industrial or institutional uses, and which have a property line that is also a boundary line of an adjacent zoning district which is less intense than subject property. Also, the developer of new residential developments, of any type, which are located adjacent to a Principal Arterial Street or State, County, or Interstate Highway shall provide a *Type "A" Landscape Buffer*, or greater, along said street or highway to buffer the residential development from the major public street.

1. The Buffers which are required to be placed along the boundaries of the zoning lot abutting properties in a less intense zoning district are determined by the *Schedule of Buffer Requirements* in Table 11.05(B) below.
2. Fences and/or walls may be used in the required buffers and shall be given a Landscape Unit value equal to their percent of opacity times their height in feet. (*Example; If a fence is 75% opaque, it has a Landscape Unit value of 0.75 per foot of elevation, or 4.5 Landscape Units per lineal foot of fence for a 6 foot high fence.*)
3. Developments which include the granting of a Conditional Use Permit may be required to provide a more intense *Landscape Buffer* adjacent to other properties as recommended by the Plan Commission and stipulated by City Council.

TABLE 11.05(B) SCHEDULE OF BUFFER REQUIREMENTS					
Subject Property	ZONING OF ADJACENT PROPERTY				
	R-1A R-1B R-2	R-3 R-4	C-1 C-2	C-3 M-1	M-2 M-3
R-1A, R-1B and R-2	N/R	N/R	N/R	N/R	N/R
R-3, R-4	A	N/R	N/R	N/R	N/R
C-1 and C-2	B	A	N/R	N/R	N/R
C-3 and M-1	C	B	A	N/R	N/R
M-2 and M-3	D	C	B	A	N/R

KEY: A=(Type "A" Buffer); B=(Type "B" Buffer); C=(Type "C" Buffer);
D=(Type "D" Buffer); N/R=None Required

Parking Lot

Property Line	(15 feet)	1 shade tree = 225 LUs 2 evergreen trees = 450 LUs 2 ornamental trees = 300 LUs 15 deciduous shrubs = 225 LUs <u>10 evergreen shrubs = 300 LUs</u> Type "A" Buffer = 1,500 LUs
100 FEET = (1,500 Landscape Units)		

TYPE "A" BUFFER - 15 LANDSCAPE UNITS PER LINEAL FOOT

Parking Lot

Property Line	(20 feet)	2 shade trees = 450 LUs 3 evergreen trees = 675 LUs 2 ornamental trees = 300 LUs 17 deciduous shrubs = 255 LUs <u>11 evergreen shrubs = 330 LUs</u> Type "B" Buffer = 2,010 LUs
100 FEET = (2,000 Landscape Units)		

TYPE "B" BUFFER - 20 LANDSCAPE UNITS PER LINEAL FOOT

Parking Lot

Property Line	(25 feet)	3 shade trees = 675 LUs 4 evergreen trees = 900 LUs 3 ornamental trees = 450 LUs 8 deciduous shrubs = 120 LUs <u>12 evergreen shrubs = 360 LUs</u> Type "C" Buffer = 2,505 LUs
100 FEET = (2,500 Landscape Units)		

TYPE "C" BUFFER - 25 LANDSCAPE UNITS PER LINEAL FOOT

Parking Lot

Property Line	(30 feet)	3 shade trees = 675 LUs 4 ornamental trees = 600 LUs 4 evergreen trees = 900 LUs 15 deciduous shrubs = 225 LUs <u>20 evergreen shrubs = 600 LUs</u> Type "D" Buffer = 3,000 LUs
100 FEET = (3,000 Landscape Units)		

TYPE "D" BUFFER - 30 LANDSCAPE UNITS PER LINEAL FOOT**Figure 11.05(C) – LANDSCAPE BUFFER EXAMPLES**

11.05 PERIMETER LANDSCAPING: (continued)**C. LANDSCAPE BUFFERS:** (continued)

4. Description of Buffers: The buffers described below shall be the minimum requirements for that buffer. However, depending on the space available, the applicant or owner may choose to increase the buffer widths in order to reduce the amount of required plantings. For each additional 5 feet of buffer width the *Landscape Units* required may be reduced by 10%. The buffer requirements are as follows:

- a. **Type “A” Buffer:** The *Type “A” Buffer* must be 15 feet wide and shall consist of 15 landscape units per lineal foot of a zoning district boundary line, with evergreens comprising 50% of the landscape units or;
 - 1. A 20-foot wide buffer with 90% of the required landscape units per 100 feet of frontage (*13.5 LU’s per lineal foot*).
 - 2. A 25-foot wide buffer with 80% of the required landscape units per 100 feet of frontage (*12 LU’s per lineal foot*).
- b. **Type “B” Buffer:** The *Type “B” Buffer* must be 20 feet wide and shall consist of 20 landscape units per lineal foot of a zoning district boundary line, with evergreens comprising 50% of the landscape units or;
 - 1. A 25-foot wide buffer with 90% of the required landscape units per 100 feet of frontage (*18 LU’s per lineal foot*).
 - 2. A 30-foot wide buffer with 80% of the required landscape units per 100 feet of frontage (*16 LU’s per lineal foot*).
- c. **Type “C” Buffer:** The *Type “C” Buffer* must be 25 feet wide and shall consist of 25 landscape units per lineal foot of a zoning district boundary line, with evergreens comprising 50% of the landscape units or;
 - 1. A 30-foot wide buffer with 90% of the required landscape units per 100 feet of frontage (*22.5 LU’s per lineal foot*).
 - 2. A 35-foot wide buffer with 80% of the required landscape units per 100 feet of frontage (*20 LU’s per lineal foot*).
- d. **Type “D” Buffer:** The *Type “D” Buffer* must be 30 feet wide and shall consist of 30 landscape units per lineal foot of a zoning district boundary line, with evergreens comprising 50% of the landscape units or;
 - 1. A 35-foot wide buffer with 90% of the required landscape units per 100 feet of frontage (*27 LU’s per lineal foot*).
 - 2. A 40-foot wide buffer with 80% of the required landscape units per 100 feet of frontage (*24 LU’s per lineal foot*).

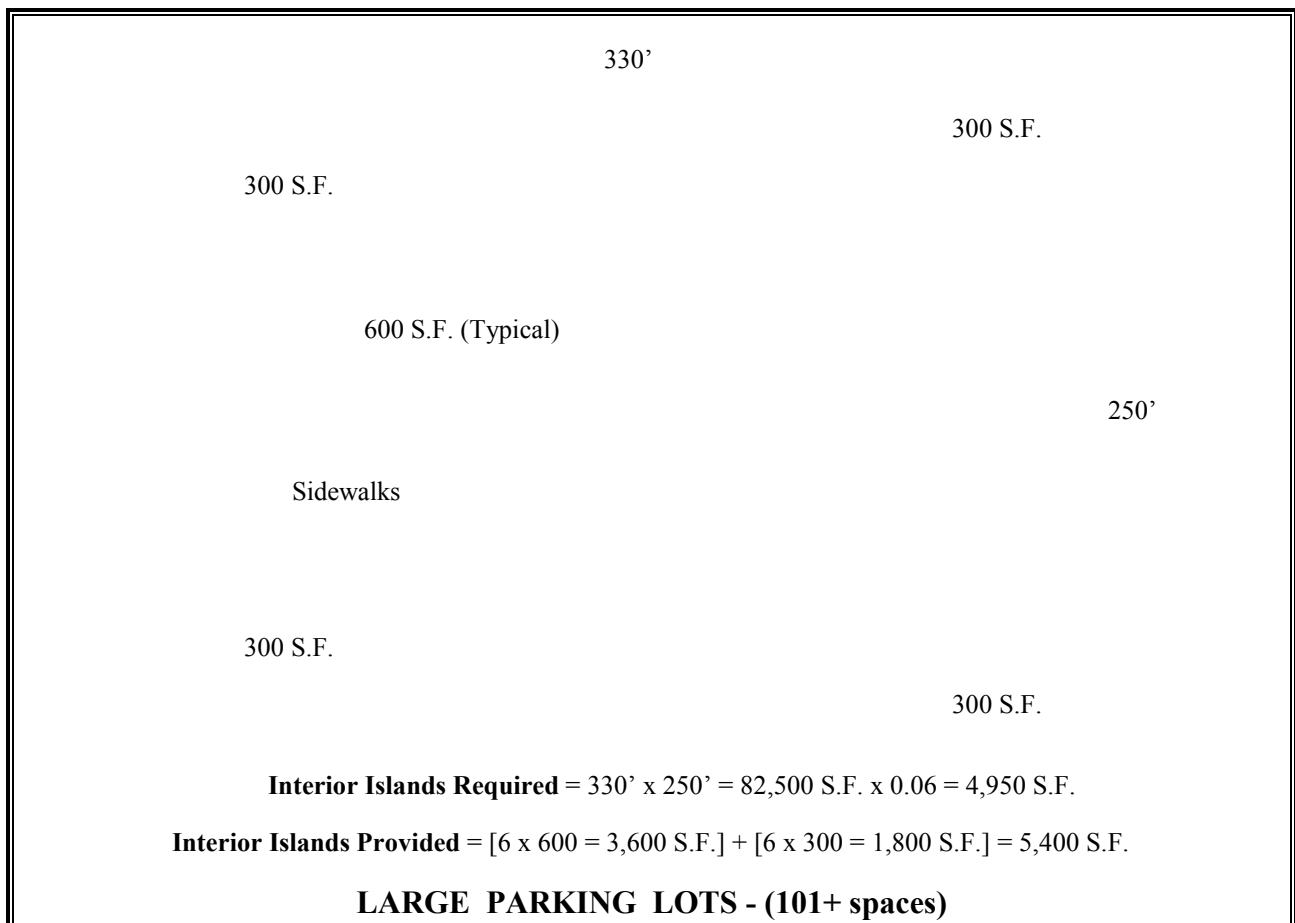
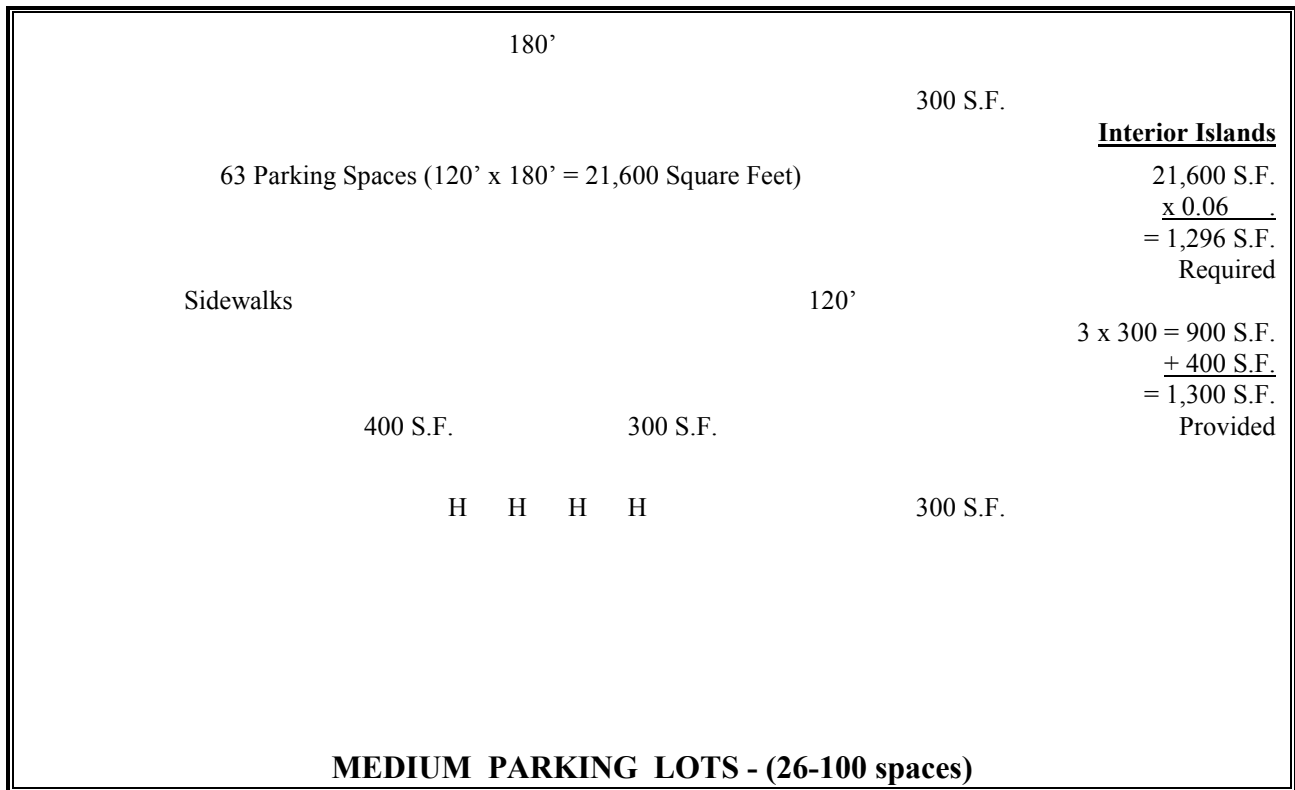


Figure 11.06 - INTERIOR PLANTING ISLANDS

11.06 INTERIOR LANDSCAPING: The *Interior Landscaping* requirements shall be in addition to all other landscape requirements of this article. This requirement is intended to break up large expanses of pavement with islands of landscaping and for the planting of shade trees within parking lots. All zoning lots that have parking lots with more than 25 parking spaces or outdoor uses or storage areas greater than 7,000 square feet in area, shall be required to provide *Interior Planting Islands* located within the perimeter of these areas. The total area of required *Interior Planting Islands* must be at least 6% of the total land area of the parking lot or outdoor storage area. (See Figure 11.06 *Interior Planting Islands* for examples.)

- A. Interior Planting Islands:** An *Interior Planting Island* is one which is bounded on at least 3 sides by paving, not including adjacent drives or streets external to the area in question. Planting beds located at the corners of parking lots bound on only 2 sides by pavement may also be counted toward the square footage requirements. All interior planting islands shall be edged with 6 inch high concrete, cut stone curbing or other approved method to protect the planting bed's landscaping from vehicular traffic and snow plows. Decomposing materials such as wooden landscape timbers or railroad ties may not be used in place of the required concrete or stone curbing. (Note: Concrete or cut stone curbing must be a minimum dimension of 6 inches wide, 18 inches deep and 48 inches long)
- B. Plantings:** All *Interior Planting Islands* shall be planted with at least one shade tree and live low growing plant materials (under 3 feet in height) in sufficient quantity to provide 5 *Landscape Units* per 10 square feet of planting island area. These plantings may consist of a combination of lawn, ground covers, perennial plants, dwarf shrubs and ornamental or evergreen trees. A mulch 2 to 3 inches in depth, such as shredded bark or wood chips, is recommended to aid plant growth and improve the health of plants. However, inorganic mulch (such as stone, gravel or decorative rock) of a size greater than ¼ inch in diameter, may not be used as a mulch or ground cover because of safety concerns associated with large stone mulch. Large stone may be used for vandalism, and can become a tripping hazard when spilled out of the planting beds onto sidewalks or parking lots.
- C. Location:** The *Interior Planting Islands* shall be located and designed to break up long expanses of parking bays, protect parked vehicles, assist with vehicular and pedestrian traffic circulation, snow storage, and storm water drainage. *Interior Planting Islands* shall also be used as traffic control islands and must be located at the ends of parking bays and at intersections of interior traffic aisles and access drives for this purpose.
- D. Size:** In *Large Parking Lots*, *Interior Planting Islands* shall be a minimum of 300 square feet in land area and not less than 18 feet in width to provide adequate land area to support the growth of one or more trees. In *Medium Parking Lots*, the minimum size of all interior planting islands shall be 150 square feet, with a minimum width of 9 feet to provide adequate land area to support the growth of at least one tree. If a parking lot requiring *Interior Planting Islands* cannot provide these minimum dimensions due to unique site constraints, the Planning Director may approve a plan with reduced interior planting islands. In no case may an interior planting island be less than 5 feet wide and 80 square feet in area. (Note: These dimensions may include curbing. Also, see Section 11.03 "SHADE TREES" for Shade Tree regulations.)

11.07 SUBMITTAL AND APPROVAL OF PLANS: A *Site Plan* and *Landscape Plan* shall be submitted to the Planning Director with every application for a Building Permit or Parking Lot Permit for any proposed new use, change of use or structure, or an addition to a use or structure, and prior to the start of work on development of any land located in the city limits of Beloit. A State Registered Architect, Landscape Architect or Engineer should prepare the required site plans. Landscaping Plans for projects that exceed an estimated total cost of \$500,000 must be prepared by a State Registered Landscape Architect. All plans shall meet all the requirements of this Ordinance and include the following information:

- A. **Site Plan:** The *Site Plan* and any accompanying drawings (Demolition Plan, Grading Plan, Landscape Plan) shall be drawn to scale using an engineering scale (preferably 1 inch=20 feet) and must show existing and proposed building locations, dimensions, setbacks, streets (traffic lanes & curbs), pedestrian access (sidewalks), vehicular access (curb cuts, alleys, driveways), parking lot layout (spaces, traffic aisles and interior planting islands), vehicular maneuvering areas, loading docks or zones, stacking spaces, existing trees and landscaping to remain, new landscape areas (lawn areas, detailed planting plans and plant lists), paved areas and type of paving, grading, storm water drainage and structures, fencing, lighting, signage and other improvements that are proposed and/or required.
- B. **Landscape Plan:** The *Landscape Plan* shall be drawn to scale using an engineering scale (preferably 1 inch=20 feet) and show in detail the proposed landscaping improvements including the plant species and variety, quantity, size and location of all existing and proposed plant materials, as well as other types of landscape improvements such as earth berms, retaining walls, fences, lighting, sidewalks, parking lots, driveways, concrete curbing and other protective barriers as required or proposed. The *Landscape Plan* shall contain a *Plant List* which includes a list of all plant materials by species and variety name, the proposed size at time of planting, the total quantity of each plant, their *Landscape Unit* values and a summary of all the *Landscape Units* required for the site and proposed on the plans, plus any other special comments or characteristics regarding the proposed development. The *Landscape Plan* shall also be subject to the following provisions:
 - a. Wherever landscaping may interfere with traffic vision (i.e. sight triangles at corners of intersections of streets or alleys), the *Landscape Plan* shall be designed with plants having a mature height not greater than 3 feet (excluding trees) and the height of shrub plantings shall be maintained at or under 3 feet.
 - b. If location and circumstances dictate, plant material used should be resistant to winter salt damage and resistant to the fumes and emissions of automobiles.
 - c. Landscaping for auto sales lots may utilize low growing shrubs that reach 12 to 24 inches in mature height as well as the required shade trees in the *Landscape Strip* located between an auto display lot and a public street. In these cases the intent is not to screen vehicles for sale from public view, but to meet the landscaping requirements of this Ordinance by providing an attractive landscaped area in front of the vehicles and along the public right-of-way.
- C. **Tree Protection and Preservation Plan:** If there are any existing *Mature Trees*, located on a site, a *Tree Protection and Preservation Plan* shall also be included which indicates methods and details for protecting and preserving existing trees, shrubs and other vegetation that are to remain and are to be protected during construction according to Section 11.04, "TREE PRESERVATION".

11.07 SUBMITTAL AND APPROVAL OF PLANS: (continued)

- D. APPROVAL OR DISAPPROVAL:** The Planning Director, and/or his staff, shall review the submitted plans and determine whether or not the minimum requirements and intent of this ordinance have been met prior to granting Zoning Clearance for any permits or issuing any permits. The Planning Director shall have the right to approve or disapprove any Site Plan or Landscape Plan, which does not meet the requirements of this Ordinance. The granting of approval by the Planning Director may include such conditions as deemed reasonable and necessary to carry out the intent of the Ordinance.
- E. ISSUANCE OF PERMITS:** No Certificate of Zoning Compliance shall be issued by the Planning Director and no Certificate of Occupancy shall be issued by the Building Official unless all the provisions of this Ordinance, including the parking lot and landscaping improvements, have been completed according to the approved plans.
- F. SUBSTITUTIONS:** If plant substitutions are necessary, due to seasonal planting problems or availability of plant material, they may be made after approval has been granted for a specific plan by the Planning Director, provided the following conditions are maintained:
1. Any plant substitutions must continue to meet the requirements for evergreen plant materials.
 2. Minor revisions to planting plans are acceptable if there is no reduction in the quality of plant materials or no change in size or location of plant materials, and if the new plants are of the same general category (i.e. shade, ornamental or evergreen trees) and have the same general design characteristics (mature height, crown or spread) as the materials being replaced.
 3. If these criteria are not fulfilled, changes to approved plans must be made and resubmitted and reviewed anew by the planning staff and approved by the Planning Director.

11.08 ENFORCEMENT AND MAINTENANCE:

- A. COMPLETION OF IMPROVEMENTS:** All landscaping and off-street parking and loading space improvements shall be completed prior to the occupancy of any building or the commencement of use of the land. In the event of adverse weather conditions or other unforeseen events, the Planning Director may authorize an extension of time to complete the required improvements.
- B. MAINTENANCE:** It shall be the owner's responsibility to maintain landscaped areas in a neat, clean and orderly manner, and to keep plant materials in a healthy and weed-free condition. Any plants that die (and are part of the minimum landscaping requirements for subject property according to this article) must be replaced within the same growing season with the same species, variety and size unless a change is requested in writing by the owner and approval is granted in writing by the Planning Director. Maintenance shall include, but is not limited to, adequate watering, pruning, mowing of lawns, and removal of weeds and litter not only of the zoning lot, but also the area between the property line and the street curb or edge of pavement. Snow shall be plowed to and stored in snow storage areas, which shall consist of remote paved parking areas or lawn areas, but not landscape beds containing woody plant materials. At no time shall plowed snow be deposited on woody plant materials or on the trunks of trees.

11.09 MINIMUM STANDARDS: Plant materials shall comply with the requirements described in the latest edition of “*American Standards for Nursery Stock*” which is published by the American Association of Nurserymen and is available by contacting ANA Publications in Washington, D.C. at (202) 789-2900.

1. **SIZE:** Shrubs used for screening purposes must reach a minimum height of 36 inches within 3 years of installation unless otherwise approved by the Planning Director. All plants shall be at least as large as the minimum size set forth below at the time of planting.
 - a. Shade trees: Shall be at least 2 inches in diameter, measured 6 inches above grade, and 12 feet in height or greater when planted. Shade trees required for replacement of trees removed without a *Tree Removal Permit* and in violation of Section 11.04 shall be 3 inches in diameter, measured 6 inches above grade, and 14 feet in height or greater when planted.
 - b. Evergreen trees: Shall be at least 6 feet in height or greater when planted.
 - c. Ornamental trees: Shall be at least one inch in diameter, measured 6 inches above grade, and 6 feet in height or greater when planted.
 - d. Shrubs: Dwarf and semi-dwarf shrubs shall be at least 18 to 24 inches or greater in height or spread when planted, depending on the variety of plant. Strong growing shrubs shall be at least 3 feet in height or spread when planted.
2. **GRADE:** All trees shall have comparatively straight trunks, well developed leaders and tops, and roots characteristic of the species, cultivar or variety showing evidence of proper nursery pruning. All plants must be free of insects, diseases, mechanical injuries and other objectionable features at the time of planting.
3. **SPACING:** Shade and evergreen trees shall be dispersed among the parking areas in planting islands and/or around the edges of the paved areas, but must be within 25 feet of the paved areas. Trees may be grouped in a grove according to a plan approved by the Planning Director as long as it is not an attempt to avoid the *Interior Planting Islands* requirement of this Ordinance. All other plant materials should follow the spacing recommendations in *Table 11.05(A) Schedule of Landscape Unit Values*.
4. **PROTECTIVE MEASURES:** All landscape planting beds shall be protected from damage by vehicular traffic, snow plows or other hazards with 6 inch high concrete curbing, concrete or plastic parking blocks with anchors, cut stone curbing, bollards, fencing or other similar permanent protective barriers as approved by the Planning Director. Decomposing materials such as wooden railroad ties or landscape timbers, shall not be allowed as a substitute for this requirement since they have a short useful life, become unsightly, and require frequent replacement.
5. **RECOMMENDED PLAT LIST:** Listed in *Appendix “D”* are recommendations for Shade Trees, Evergreen Trees, Ornamental Trees, Evergreen Shrubs, Deciduous Shrubs, Perennial Plants and Ground Cover Plants suited for use in the climate of Beloit Wisconsin. This list is not conclusive and is not intended to be restrictive. The plants suggested should do well in public landscapes, although some may be more suited to specific locations. Each landscape site needs to be evaluated individually with regard to plant selection.

11.10 DEFINITION OF LANDSCAPE TERMS:

BERM: An earthen mound designed to provide visual interest, screen undesirable views and/or decrease noise.

BUFFER: A combination of physical space and vertical elements, such as plants, berms, fences and/or walls. The purpose of a buffer is to separate and screen incompatible land uses from one another.

DECIDUOUS PLANT: A woody plant with foliage that is shed at the end of the growing season and grows anew in the spring.

DIAMETER: A tree trunk's diameter measured in inches at a height of 4 feet, 6 inches above the average ground level at the base of the tree. If a tree splits into multiple trunks below 4 feet, 6 inches, the trunk is measured at its most narrow point beneath the split.

EVERGREEN PLANT: A woody plant with foliage that persists and remains green year-round; usually but not always a conifer (cone bearing) plant.

GROUND COVER PLANT: A low-growing perennial, shrub or vine that will spread rapidly, grow close to the ground and create a thick, low-maintenance covering that binds and protects the soil. May be deciduous or evergreen and generally is under 18 inches in height.

LANDSCAPE UNITS (LUs): A numerical value given to landscape materials, based on their relative size, screening and spacing characteristics. This is used to help determine if an existing or proposed landscape planting meets the landscaping requirements of the ordinance for a particular land use.

LANDSCAPING: A combination of deciduous and/or evergreen trees, shrubs, perennials, ground covers and lawn usually arranged in harmonious and attractive groupings to soften the hard lines, surfaces and elements of the human built urban environment.

LAWN: One or a mixture of more than one different type of perennial grasses that will spread rapidly, grow close to the ground and create a thick covering that binds and protects the soil. Generally maintained at no more than 3 inches to 6 inches in height.

MATURE TREE: Any tree having a *Diameter* of 6 inches or greater. The diameter can be calculated by using the formula: $\{2.3 (\text{square root of the circumference})^2 \div 3.1416\}$.

ORNAMENTAL TREE: A small deciduous or evergreen tree planted primarily for its ornamental value and/or screening ability. (Mature height is usually 15 feet to 30 feet).

PARKING LOT, LARGE: Parking lots with 101 parking spaces or more.

PARKING LOT, MEDIUM: Parking lots with 26 to 100 parking spaces.

PARKING LOT, SMALL: Parking lots with 25 or fewer parking spaces.

PERENNIAL PLANT: A non-woody, herbaceous plant that lives longer than 3 years and usually has outstanding flowering characteristics.

PLANTING BED: An unpaved porous area devoted only to the support of living plant material and having a minimum depth of 2 feet of good loam soil.

ROOT ZONE, CRITICAL: The area around the trunk of a tree defined by a circle with the tree as its center. The diameter of such circle shall be one foot for every one-inch diameter of the tree.

ROOT ZONE, TOTAL: The area around the trunk of a tree defined by a circle with the tree as its center. The radius of such circle shall be one foot for every one-inch diameter of the tree.

SCREEN: A method of reducing the impact of noise and unsightly visual intrusions with less offensive or more harmonious or attractive elements such as plants, berms, fences, walls, or any appropriate combination thereof.

SHADE TREE: Usually a deciduous tree, sometimes an evergreen, planted primarily for its high crown of foliage or broad overhead canopy. (Mature height usually exceeds 30 feet).

SHRUB: A deciduous or evergreen woody plant, smaller than a tree, consisting of several small stems from the ground or small branches near the ground. (Mature height is usually 2 to 15 feet)."

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